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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,937	08/09/2001	Kurudi H. Muralidhar	7287-000017	4932

27572 7590 02/09/2006

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EXAMINER

ZHEN, LI B

ART UNIT PAPER NUMBER

2194

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,937

Applicant(s)

MURALIDHAR ET AL.

Examiner

Li B. Zhen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 20 are pending in the application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/2005 has been entered.

Response to Arguments

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claim 18 recites the limitation "second network" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,615,088 to Myer et al. [hereinafter referred to as Myer].

9. As to claim 1, Myer teaches input/output (I/O) devices [a plurality of devices, appliances and/or equipment; col. 2, lines 52 – 67] connected to a network of an industrial control system [control area networks 30 and 31; col. 2, lines 52 - 67], comprising:

a first network [control area network 30; col. 3, lines 1 - 22];

a plurality of I/O devices connected to the first network [a plurality of devices, appliances and/or equipment; col. 2, lines 52 – 67]; and

a master computer [Master controller 36; col. 3, lines 1 – 21] coupled to the first network [Master controller 36 may also poll each device in control area network 30 periodically to monitor its status; col. 3, lines 1 - 22] and including control software [a specific interface object instance operable to communicate and operate with the at least one device; col. 1, lines 53 – 62] with an object oriented model [col. 5, lines 27 – 45] for defining one of attributes [characteristics of device number 260; col. 5, lines 46 – 67], parameters and operations of the I/O devices [interface object instance operable to communicate and operate with the at least one device; col. 1, lines 53 – 62] wherein said master computer adjusts said one of attributes, parameters, and operations in order to configure a first I/O device that is connected to said first network [Installation software 100 defines a generic device interface object 102, which may be configured by device interface object configuration files 104 to instantiate objects 106-110 tailored to specific devices made by specific manufacturers; col. 5, lines 26 – 45] and wherein said master computer subsequently clones properties that include said one of attributes, parameters, and operations of said first I/O device in order to configure a second I/O device [If the configuration for the new device does exist, then the configuration file is

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compared with the configuration file information obtained from the new device....specific device interface object can be instantiated, as shown in block 138. Alternatively, the interface object instances may be generated when the configuration file is loaded in block 128 or upon startup when all configuration files 104 are loaded into installation software 100 prior to bringing the new device on-line; col. 6, lines 29 – 49] that is subsequently connected to said first network [process by which the devices may be installed is sufficiently flexible to allow either the insertion of the hardware device first or the configuring of the device interface object first and then attach them to one another; col. 9, lines 19 – 32].

10. As to claim 10, Myer teaches a system for cloning input/output (I/O) devices [a plurality of devices, appliances and/or equipment; col. 2, lines 52 – 67] connected to a network of an industrial control system [control area networks 30 and 31; col. 2, lines 52 – 67], comprising:

- a first network [control area network 30; col. 3, lines 1 - 22];

- a second network [control area network 31; col. 2, lines 53 - 67] coupled to the first network;

- a first plurality of I/O devices connected to the first network [a plurality of devices, appliances and/or equipment; col. 2, lines 52 – 67];

- a second plurality of I/O devices connected to the second network [col. 3, lines 21 – 38]; and

- a master computer [Master controller 36; col. 3, lines 1 – 21] coupled to one of the first and second networks [Master controller 36 may also poll each device in control area network 30 periodically to monitor its status; col. 3, lines 1 - 22] and including control software [a specific interface object instance operable to communicate and operate with the at least one device; col. 1, lines 53 – 62] with an object oriented model [col. 5, lines 27 – 45] for defining one of attributes [characteristics of device number 260; col. 5, lines 46 – 67] and operations of at least one of the I/O devices on one of the first and second networks [interface object instance operable to communicate and operate with the at least one device; col. 1, lines 53 – 62], wherein the master computer adjusts

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said one of attributes, parameters and operations in order to configure a first I/O device that is connected to one of said first and second networks [Installation software 100 defines a generic device interface object 102, which may be configured by device interface object configuration files 104 to instantiate objects 106-110 tailored to specific devices made by specific manufacturers; col. 5, lines 26 – 45] and wherein said master computer subsequently clones properties that include said one of attributes, parameters, and operations of said first I/O device in order to configure a second I/O device [If the configuration for the new device does exist, then the configuration file is compared with the configuration file information obtained from the new device....specific device interface object can be instantiated, as shown in block 138. Alternatively, the interface object instances may be generated when the configuration file is loaded in block 128 or upon startup when all configuration files 104 are loaded into installation software 100 prior to bringing the new device on-line; col. 6, lines 29 – 49] that is subsequently connected to the other of said first and second networks [process by which the devices may be installed is sufficiently flexible to allow either the insertion of the hardware device first or the configuring of the device interface object first and then attach them to one another; col. 9, lines 19 – 32].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 2 – 9 and 11 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myer in view of U.S. Patent No. 6,845,416 to Chasmawala et al. [hereinafter referred to as Chasmawala].**

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13. As to claim 2, Myer teaches the object oriented model [col. 5, lines 27 – 45] but does not specifically teach a hierarchical class structure with inheritance properties.

However, Chasmawala teaches a controller area network [col. 4, lines 16 – 22] with I/O devices [peripheral device 106 may be coupled to one or more sensors and/or actuators 114A-N; col. 4, lines 54 - 57] and controller software [CAN software; col. 7, lines 18 – 38] with a hierarchical class structure with inheritance properties [a hierarchical collection of objects (instances), each of which has attributes and methods; col. 7, lines 39 – 60].

14. It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of controller software with a hierarchical class structure with inheritance properties because this creates relationships between an object and the objects above it in hierarchy [col. 7, lines 39 – 60 of Chasmawala] and allows new objects to re-use code which already existed in another class.

15. As to claim 3, Myer as modified teaches the hierarchical class structure includes a device class [col. 7, lines 18 – 38 of Chasmawala].

16. As to claim 4, Myer as modified teaches the device class includes a plurality of device types [col. 4, lines 44 – 54 of Chasmawala].

17. As to claim 5, Myer as modified teaches the object oriented model includes at least one class level hierarchically below the device class [col. 7, lines 38 – 60 of Chasmawala].

18. As to claim 6, Myer as modified teaches devices instantiated at the at least one class level inherit the one of the attributes, parameters and operations [Each instance of a particular class has attributes that define its externally visible qualities, as well as methods that are used to perform actions; col. 7, lines 18 – 38 of Chasmawala] of the at least one class level and a device type of the device class from which the at least one class level depends [col. 7, lines 38 – 60 of Chasmawala].

19. As to claim 7, Myer as modified teaches the device types include at least one of analog and digital devices [col. 2, lines 25 – 43 of Chasmawala].
20. As to claim 8, Myer as modifies teaches the control software includes a graphical user interface for interfacing the control software and cloning the I/O devices [control area network user interfaces (CAN UI/F) 35; col. 2, lines 52 - 67 of Myer].
21. As to claim 9, Myer as modified teaches the I/O devices include at least one of barcode readers, sensors, actuators, and motor starters [peripheral device 106 may be coupled to one or more sensors and/or actuators 114A-N; col. 4, lines 54 – 57 of Chasmawala].
22. As to claim 18, Myer as modified teaches the first and second networks are connected by a gateway [col. 4, lines 9 – 28 of Myer].
23. As to claim 19, Myer as modified teaches the first and second networks are different types of networks [col. 2, lines 52 – 67 of Myer].
24. As to claims 11 – 17 and 20, these are rejected for the same reasons as claims 2 – 9 above.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,405,366 to Lorenz, Sr. et al. teaches a multi-layered software architecture, a file filter interface, and a data standard interface layer for accessing data of a data type.

U.S. Patent No. 6,360,277 to Ruckley et al. teaches an addressable process control relay comprises a solid-state relay with an embedded network client.

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CONTACT INFORMATION

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Li B. Zhen
Examiner
Art Unit 2194

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